IN THE CLAIMS:

Claims 1-17 (cancelled).

18. (currently amended) A method for obtaining images of organic tissue, wherein a contrast agent is applied to the organic tissue, the method comprising the steps of:

(a) illuminating organic tissue with polarized light of a first wavelength in an absorption range of the contrast agent and a second wavelength outside an absorption range of the contrast agent;

(b) detecting remitted light that is polarized in a direction parallel to and perpendicular to a polarization of the polarized light;

(c) for each wavelength, converting the remitted light into first data ~~for a first image~~ and second data ~~for a second image~~, the first data ~~images~~ being representative of the remitted light in a direction parallel to the polarized light and the second data ~~images~~ being representative of the remitted light in a direction perpendicular to the polarized light;

(d) producing a difference image for each wavelength by subtracting the respective second data from the first data; and

(e) subtracting the second wavelength difference image from the first wavelength difference image to create an image of a layer below a surface of the organic tissue in which background noise is largely cancelled out.

19. (previously presented) A method as recited in Claim 18, further comprising the step of estimating a depth of the layer based upon

$$D = 1/(\mu_s (1-g))$$

where D is the depth, μ_s is a scattering factor of the tissue and g is a anisotropy factor of the tissue.

20. (previously presented) A method as recited in Claim 18, further comprising the steps of:

repeating steps (a)-(e) with a plurality of wavelengths to create additional images of layers at varying depths below the surface; and

stacking the image and the additional images to create a psuedo-3D image.

21. (currently amended) An apparatus for imaging a tissue region, comprising:

a linear optical system including:

(a) a polarized light emitter operable to emit light having at a plurality of user-selected wavelengths, the light having a first polarization direction with respect to the tissue region;

(b) a light detector operable to detect light remitted from the tissue region having said first polarization direction and light remitted from the tissue region having a second polarization direction perpendicular to said first polarization direction; and

(c) an analyzer operable to:

i) form a first difference image for a first wavelength of the light by subtracting the respective detected light having the second polarization direction from the

detected light having the first polarization direction;

ii) form a second difference image for a second wavelength of the light by subtracting the respective detected light having the second polarization direction from the detected light having the first polarization direction; and

iii) create a third image of a layer in the tissue region by subtracting the second difference image from the first difference image.

22. (previously presented) The apparatus according to claim 21, whereby the wavelength are in a range of 200 nm and 2000 nm.

23. (previously presented) The apparatus according to claim 21, whereby the wavelengths are in a range of 390 nm and 750 nm.

Claim 24. (cancelled)

25. (previously presented) The apparatus according to claim 21, wherein the third image is in a range of 1 μm to 3 mm from a surface of the tissue region and wherein the range is determined by a spectral range of the light employed and by optical properties of the tissue region.

26. (previously presented) The apparatus according to claim 25, wherein the analyzer creates a pseudo-3D image using a plurality of images formed at different depths.

27. (currently amended) An imaging method for imaging a tissue region comprising the steps of:

emitting light having a first wavelength and a parallel polarization direction with respect to the tissue region;

detecting parallel light remitted from the tissue region having the parallel polarization direction and perpendicular light remitted from the tissue region having a polarization direction perpendicular to the parallel polarization direction;

forming a difference image by subtracting the perpendicular light from the parallel light,

whereby a depth of the difference image at or from the surface of the tissue region is determined in accordance with

$$D = 1/(\mu_s (1-g))$$

where D is the depth, μ_s is a scattering factor of the tissue region and g is an anisotropy factor of the tissue region such that as the wavelength becomes larger, the depth becomes larger;

emitting light having a second wavelength and a parallel polarization direction with respect to the tissue region;

detecting parallel light remitted having the parallel polarization direction and perpendicular light remitted from the tissue region having a polarization direction perpendicular to the parallel polarization direction as a result of the second wavelength illuminating the tissue region; and

forming a second difference image related to the second wavelength by subtracting the respective perpendicular light from the respective parallel light.

28. (previously presented) The imaging method of claim 27, further comprising the step of applying a contrast agent to the tissue region.

Claim 29. (cancelled)

30. (currently amended) The imaging method of claim 2~~7~~9, wherein each of the difference images is in a range of 1 μm to 3 mm from a surface of the tissue region, and wherein said range is determined by a spectral range of the light employed and the optical properties of the tissue region.

31. (previously presented) The imaging method of claim 30, further comprising the step of creating a pseudo-3D image using a plurality of images formed at different depths.

32. (currently amended) An imaging apparatus comprising:

means for illuminating organic tissue with polarized light of a first wavelength and a second wavelength;

means for detecting remitted light that is polarized in a direction parallel to and perpendicular to a polarization of the polarized light;

means for converting the remitted light into first data ~~for a first image~~ and second data ~~for a second image~~ for each wavelength, the first data ~~images~~ being representative of the remitted light in a direction parallel to the polarized light and the second data ~~images~~ being representative of the remitted light in a direction perpendicular to the polarized light;

means for producing a difference image for each wavelength by subtracting the respective second data from the first data; and

means for subtracting the second wavelength difference image from the first wavelength difference image to create an image of a layer below a surface of the organic tissue.

33. (previously presented) An imaging apparatus as recited in Claim 32, wherein the means for illuminating is an arc lamp and a polarizer, the means for detecting and converting is a CCD camera, and the means for producing and subtracting is a processor.

34. (currently amended) An imaging method comprising the steps of:

obtaining a first image of a tissue using a predetermined wavelength having a first polarization direction;

obtaining a second image of the tissue using the predetermined wavelength and a second polarization direction perpendicular to the first polarization direction; and

forming a first difference image from the first image and the second image;

obtaining a third image of the tissue using a second predetermined wavelength having a first polarization direction;

obtaining a fourth image of the tissue using the second predetermined wavelength and a second polarization direction perpendicular to the first polarization direction; and

forming a second difference image from the first image and the second image generated from the second predetermined wavelength; and

subtracting the second difference image from the first difference image to remove deep tissue data and create an image of a superficial layer in the tissue.

35. (previously presented) A method as recited in Claim 18, wherein the contrast agent is selected from the group consisting of Methylene Blue and Toluidine Blue, and the first wavelength is about 390 nm and the second wavelength is about 750 nm.